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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Barnes & Thornburg
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EXAMINER

LAFORGIA, CHRISTIAN A

ART UNIT	PAPER NUMBER
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2131

41

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/541,185

Applicant(s)

HAYBALL ET AL.

Examiner

Christian La Forgia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 December 2003 has been entered.
2. Claims 1-27 have been presented for examination.

Response to Arguments

3. In response to applicant's arguments, the recitation of a communications network that supports a differentiated service mechanism has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).
4. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection.
5. See further rejections that follow.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-9, 10, 12-17, 20-22, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,529,499 to Doshi et al., hereinafter Doshi.

8. As per claims 1, 17, and 26, Doshi teaches a method of provisioning a path between two specified nodes in a connectionless communications network such that the path has a specified bandwidth and a guaranteed quality of service is provided over that path, wherein the communications network supports a differentiated service mechanism, solid method comprising the steps of:

(i) specifying a bandwidth and guaranteed quality of service to be provided over the path (column 3, lines 49-54; column 4, lines 49-57; column 6, lines 23-27; column 7, lines 33-56);

(iii) determining a path between the two specified nodes (column 4, lines 1-19);

(iv) assessing the amount of available bandwidth over the path (column 3, lines 55-67; column 4, lines 33-57); and

(v) producing provisioning information to provision the path using the model for output to the network or a network simulator (column 5, lines 17-48; column 6, line 64 to column 7, line 14).

9. Doshi does not teach (ii) accessing a model of the connectionless communications network which is separate from the network nor using the model. It would have been obvious to one of ordinary skill in the art at the time the invention was made to keep a model of the network to perform the provisioning calculations for the network, since it has been held that constructing

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a structure in various elements involves only routine skill in the art. See MPEP § 2144.04; see *In re Dulberg*, 289 F.2d 522, 523, 129 USPQ 348, 349 (CCPA 1961).

10. Regarding claims 2 and 20, Doshi teaches wherein the step (iii) of assessing the amount of available bandwidth comprises accessing a bandwidth tally for each node in the path (column 3, lines 55-67; column 5, lines 17-48).

11. With regards to claim 3, Doshi teaches accessing a bandwidth tally for each link in the path (column 3, lines 55-67; column 5, lines 17-48).

12. Regarding claim 4, Doshi teaches inputting the provisioning information to the communications network in order to provision the communications network (column 5, lines 17-48; column 6, line 52 to column 7, line 14).

13. Regarding claims 5 and 21, Doshi teaches wherein the path is auto generated (column 5, lines 17-48).

14. Concerning claim 6, Doshi teaches wherein the path is determined using the shortest path first algorithm (column 8, lines 45-51).

15. Regarding claim 7, Doshi teaches wherein the path is determined using a discovery method (column 3, lines 42-67).

16. With regards to claim 8, Doshi teaches wherein the path is pre-specified by a network operator (column 6, lines 24-36).

17. Regarding claim 9, Doshi teaches which further comprises the step of adding service type labels to traffic (column 4, lines 52-57).

18. Regarding claims 10 and 22, Doshi teaches wherein the connectionless communications network is an Internet protocol communications network (column 1, lines 54-59).

19. Regarding claims 12 and 24, Doshi teaches the step of inputting information about the path, the specified bandwidth and quality of service, the differentiated service mechanism and the provisioning information to a simulator which is arranged to forecast traffic congestion points in the connectionless communications network (column 7, lines 33-66).

20. Regarding claims 13 and 25, Doshi teaches wherein the differentiated service mechanism comprises priority queuing (column 6, lines 44-51).

21. Regarding claim 14, Doshi teaches wherein the differentiated service mechanism comprises allocating traffic to one of two or more service types and one of the two specified nodes is arranged to label traffic according to its allocated service type (column 6, lines 23-51).

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22. Regarding claim 15, Doshi teaches wherein the differentiated service mechanism comprises allocating traffic to one of two or more service types and wherein the method further comprises determining the proportion of the bandwidth at a given node or link that is reserved for use by traffic of a given service type (column 6, lines 23-51).

23. Regarding claim 16, Doshi teaches wherein the provisioning information is determined such that the proportion is less than a specified threshold level (column 7, lines 33-56).

24. Regarding claim 27, Doshi teaches a connectionless communications network (column 1, lines 54-59).

25. Claims 11, 18, 19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi in view of United States Patent No. 6,430,154 to Hunt et al., hereinafter Hunt.

26. Regarding claims 11 and 23, Doshi does not teach wherein the path is a virtual leased line.

27. Hunt teaches wherein the path is a virtual leased line (column 2, lines 23-46). Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine the leased lines of Hunt with the system of Doshi because it would ensure a low loss and low delay service to subscribers. It would enable this low loss and low delay by taking into account the random breaks in communication lines by other objects that take precedence.

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28. Regarding claim 18, Doshi does not teach which further comprises a graphical user interface provided on a client computer connected to the computer system.

29. Hunt teaches which further comprises a graphical user interface provided on a client computer connected to the computer system (Figure 2 [block 22]; column 8, lines 32-48).

Therefore it would have been obvious to one with ordinary skill in the art to combine the GUI of Hunt with the system of Doshi because it would enable a better way to manage network traffic. By giving the ability to see where congestions lie in a graphical setting, it would allow a user to be able to reroute information accordingly. See MPEP § 2144.04; see *In re Seid*, 161 F.2d 229, 231, 73 USPQ 431, 433 (CCPA 1947).

30. With regards to claim 19, Doshi does not teach wherein the graphical user interface is web-based.

31. Hunt teaches wherein the graphical user interface is web-based (Figure 2 [block 22]; column 8, lines 32-48). It would have been obvious to one with ordinary skill in the art to combine the web based interface of Hunt with the system of Doshi because it would enable a better way to manage Internet traffic. By giving the ability to see where congestions lie in a graphical setting, it would allow a user to be able to reroute information accordingly. See MPEP § 2144.04; see *In re Seid*, 161 F.2d 229, 231, 73 USPQ 431, 433 (CCPA 1947).

Conclusion

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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33. The following patents are cited to further show the state of the art with respect to determining a path through a network, such as:

United States Patent No. 6,609,002 to Krishnamurthy et al., which is cited to show predictive quality of service routing for broad band low Earth satellite networks.

United States Patent No. 6,744,767 to Chiu et al., which is cited to show provisioning and monitoring internet protocol quality of service.

United States Patent No. 5,434,848 to Chimento, Jr. et al., which is cited to show traffic management in a packet communications network.

United States Patent No. 5,815,492 to Berthaud et al., which is cited to show dynamic bandwidth estimation and adaptation in high speed packet switching networks.

United States Patent No. 5,233,604 to Ahmadi et al., which is cited to show optimum path selection in packet transmission networks.

United States Patent No. 6,633,544 to Rexford et al., which is cited to show efficient pre-computations of quality of service routes.

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (703) 305-7704. The examiner can normally be reached on Monday thru Thursday 7-5.


35. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (703) 305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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36. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christian LaForgia
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